SIM2 Multimedia

D60
RS-232C Control Specification

Rev. 1.0 (12 September 2008)

Contents

Contents 2

1 Set up 3

2 Commands 4

Revision History

Rev.	Date	Software Version	Description of Change
1.0	12 September 2008	D60_1.00 or higher	Initial version.

1 Set up

This document describes how to interface the SIM2 D60 projector with a Home Theater control system (or a PC running terminal emulation software) over a direct serial connection.

Follow these steps to configure the control system (or the PC) serial port.

- Switch off the control system (or the PC) and the projector. D60RS232
- Connect the Serial Communication cable that you have purchased from your SIM2 dealer (Part number: D60RS232). It is a D-sub 9-pin female to Mini DIN 8-pin male cable, 1.8 meters (5.9 feet) long.
- If using extension cables, make sure the distances between equipment do not exceed the specifications of the interface (15 meters or 50 feet).
- Switch on the control system (or the PC) and, after start up, switch on the projector.
- Set the Serial Port Parameters as shown in the Table below.

Communication Parameters

Parameter	**Value**
Transfer Rate	115200 bps [1]
Data Bits	8
Parity Bit	None
Stop Bit	1
Flow Control	None

- Make sure the control system interface (or the PC communication program) does not add termination characters to the commands it sends (check control system or PC communication program Settings).
- Set the control system interface (or the PC communication program) Display Mode to ASCII.

[1] Transfer rate is configurable. Default baud rate is 115200 bps. Serial Command 'RS232 baud rate' (See Section 2) can set the Transfer Rate to the following values: 4800, 9600, 19200, 38400, 57600, 115200 bps.

2 Commands

In this section, serial commands (and respective responses) are listed.

Serial commands to the SIM2 D60 have the following features:

- ASCII format. In the following, commands are shown in monospace (fixed-width) type (for example: `X001X`).
- Case-insensitive. For example, `X001X` and `x001x` are both valid commands.
- No termination character required. Do not add <LF>, <CR>, <EOT> or the like at the end of the given series of characters.

If the command is invalid, the SIM2 D60 echoes the command and does nothing else.

If the command is valid:

- Command is echoed.
- Command is executed.
- A confirmation message is sent. Its format is:

  `X0_aaaX` or `Z0_aaa+bbZ`,

  where the command number aaa may be one, two or three digit long and does not have leading zeros and the value number bb is two digit long and may have leading zeros.
- Termination characters <CR> and <LF> are sent.

The Power On command (`X001X`) response is an exception because it consists of the sole confirmation message, without command echo and termination characters.

Responses to valid commands (some examples)

Command	**Response**
X001X	X0_1X
x004x	x004xX0_4X<CR><LF>
X092X	X092XX0_92X<CR><LF>
X131X	X131XX0_131X<CR><LF>
Z009W+0002Z	Z009W+0002ZZ0_9+02Z<CR><LF>

When sending several commands one after the other, sufficient time between commands should be allowed. Please note that:

- If the projector is busy when a command is sent, the unit may not accept the command.
- Command execution time may vary from 0.1 to 2.0 seconds, depending on the operation that have been requested.

When the unit is switched on from Standby, wait 20 seconds before sending commands.

The following tables list commands with their respective responses.

Basic commands

Function	Command	Response
RS232 Communication Test	X000X	X000XRS232_OKX0_0X
Power On	X001X	X0_1X
Power Off	X002X	X002XX0_2X<CR><LF>
Menu	X003X	X003XX0_3X<CR><LF>
Enter	X004X	X004XX0_4X<CR><LF>
Exit	X005X	X005XX0_5X<CR><LF>
Up (arrow key)	X006X	X006XX0_6X<CR><LF>
Down (arrow key)	X007X	X007XX0_7X<CR><LF>
Left (arrow key)	X008X	X008XX0_8X<CR><LF>
Right (arrow key)	X009X	X009XX0_9X<CR><LF>

Status commands

Function	Command	Value	Response
Get Power Status	X900X	Standby	0X0_900X
		On	X900X1X0_900X<CR><LF>

Operation commands

Function	Value	Command	Response
Input Source	Video	X131X	X131XX0_131X<CR><LF>
	S-Video	X132X	X132XX0_132X<CR><LF>
	RGBHD	X133X	X133XX0_133X<CR><LF>
	Component 1	X135X	X135XX0_135X<CR><LF>
	HDMI 1	X139X	X139XX0_139X<CR><LF>
	Component 2	X140X	X140XX0_140X<CR><LF>
	HDMI 2	X149X	X149XX0_149X<CR><LF>
Picture Mode	Cinema	X041X	X041XX0_41X<CR><LF>
	Dynamic	X044X	X044XX0_44X<CR><LF>
	Standard	X045X	X045XX0_45X<CR><LF>
	User 1	X046X	X046XX0_46X<CR><LF>
	User 2	X047X	X047XX0_47X<CR><LF>
	User 3	X048X	X048XX0_48X<CR><LF>
Black Level	0 IRE	X100X	X100XX0_100X<CR><LF>
	7.5 IRE	X101X	X101XX0_101X<CR><LF>
Color Temperature	Lamp Native	X112X	X112XX0_112X<CR><LF>
	Warm	X113X	X113XX0_113X<CR><LF>
	Normal	X114X	X114XX0_114X<CR><LF>
	Cool	X115X	X115XX0_115X<CR><LF>
	User 1	X116X	X116XX0_116X<CR><LF>
	User 2	X117X	X117XX0_117X<CR><LF>
	User 3	X118X	X118XX0_118X<CR><LF>

Operation commands (continued)

Function	Value	Command	Response
Gamma	2.2	Z128W+0002Z	Z128W+0002ZZ0_128+02Z<CR><LF>
	2.4	Z128W+0004Z	Z128W+0004ZZ0_128+04Z<CR><LF>
	2.5	Z128W+0001Z	Z128W+0001ZZ0_128+01Z<CR><LF>
	2.6	Z128W+0005Z	Z128W+0005ZZ0_128+05Z<CR><LF>
	2.8	Z128W+0000Z	Z128W+0000ZZ0_128+00Z<CR><LF>
Dynamic Black	On	X400X	X400XX0_400X<CR><LF>
	Off	X401X	X401XX0_401X<CR><LF>
Iris	Full Off	X258X	X258XX0_258X<CR><LF>
	Full On	X287X	X287XX0_287X<CR><LF>
Aspect Ratio	Anamorphic	Z009W+0000Z	Z009W+0000ZZ0_9+00Z<CR><LF>
	4:3	Z009W+0001Z	Z009W+0001ZZ0_9+01Z<CR><LF>
	Letter Box	Z009W+0002Z	Z009W+0002ZZ0_9+02Z<CR><LF>
	Wide	Z009W+0003Z	Z009W+0003ZZ0_9+03Z<CR><LF>
	Real	Z009W+0004Z	Z009W+0004ZZ0_9+04Z<CR><LF>
Language	English	X121X	X121XX0_121X<CR><LF>
	French	X122X	X122XX0_122X<CR><LF>
	German	X123X	X123XX0_123X<CR><LF>
	Italian	X124X	X124XX0_124X<CR><LF>
	Spanish	X125X	X125XX0_125X<CR><LF>
	Russian	X126X	X126XX0_126X<CR><LF>
	Traditional Chinese	X127X	X127XX0_127X<CR><LF>
	Simplified Chinese	X128X	X128XX0_128X<CR><LF>
Lamp Power	Whisper	X091X	X091XX0_91X<CR><LF>
	Normal	X092X	X092XX0_92X<CR><LF>
RS232 baud rate	4800 bps	X070X	X070XX0_70X<CR><LF>
	9600 bps	X071X	X071XX0_71X<CR><LF>
	19200 bps	X072X	X072XX0_72X<CR><LF>
	38400 bps	X073X	X073XX0_73X<CR><LF>
	57600 bps	X074X	X074XX0_74X<CR><LF>
	115200 bps	X075X	X075XX0_75X<CR><LF>

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